

SMASHFestUK Evaluation strategy

Introduction

The evaluation of SMASHfestUK will encompass the four main stakeholders,

1. The adult and child visitors to SMASHfestUK events
2. The STEM professionals, performers and academics that contribute to the festival
3. The Young Explainers and volunteers who support the event
4. The school outreach (teachers and pupils)

The purpose of the evaluation is three-fold,

1. To provide valid and representative quantitative data that aligns with SMASHfestUK (and funders) aims and objectives (including an analysis of science capital goals) that can be assessed year-on-year.
2. To provide qualitative data that sits parallel with the quantitative data to give greater depth to the evaluation
3. To provide strategies to more accurately count visitor numbers and record visitor demographics to the SMASHfestUK events.

A pragmatic approach will be utilized to capture data using quantitative and qualitative methods.

Short-term impact

Group	Method	Sample size	Staff
Visitor Evaluation SMASHfestUK 2018 Adults visitors	Postcard style quick evaluation form - census approach. This will focus on key demographics (of visiting group), prior experience of STEM engagement, motivations, initial impressions and contact details for further research. A 'human postbox' to roam the festival to collect responses. A more indepth e-survey (see below) will be sent to all who provide contact details Companion interview style questionnaire with a sample of	278 + (this aims to get a representative sample of the SMASHfestUK population) Expected = 100¹	One distributor and One 'postbox' (these can be volunteers) One full-time evaluator is needed to man the

¹ In 2017, an estimated 2676 adult and child visitors came to SMASHFestUK. This equates to approximately of 892 families/groups in total. A sample size of 200 adult visitors therefore represents a confidence interval of 6.11 and

Child visitors	<p>adult visitors attending SMASHfestUK (as in 2017). Including closed, scaled and open questions and an option for further follow-up research. This will focus on learning, science capital and progression and examining what role narrative plays in the experience for the visitors.</p> <p>One page evaluation form - more 'fun' version with quick fire responses</p>	<p>Deptford Lounge: 10 per day = 50</p> <p>The Albany: 25 per day = 50</p> <p>(extra responses from the e-survey could equal 50)</p> <p>50</p>	<p>Deptford Lounge and collect the evaluation with the help of volunteers/YE at busy times.</p> <p>Two full-time evaluators are needed at The Albany (possibly with volunteers to aid them at busy times).</p> <p>Total staff needed full time: THREE. 1 (mon-Wed) and 3 (Thurs-Fri) - Plus volunteers when needed.</p> <p>As above.</p>
Contributors Evaluation	<p>Front-end 'fact-finding' with contributors working with them to develop evaluation questions for the adult and child visitors' evaluation. Working specifically with Universities undertaking impact research to aid them in collecting data for their impact reports.</p> <p>Post-event evaluation (options: E-Survey, this would need to be introduced to the contributors on the day so that they are prepared for it and so that response rate is high. (Telephone interviews could be utilised - more qualitative in nature, but time consuming for evaluator and contributor).</p>	80-100% (aim)	1 evaluator
Young Explainers and volunteers	<p>Pre- and post- evaluation forms (paper-based given out at training and post-festival meet-up)</p> <p>Case studies (short and longer term) - telephone interviews</p>	<p>80-100% response rate</p> <p>10-20% of randomly selected YEs</p>	1 evaluator (could need 'distributors/collectors for paper option')
Schools Outreach Teachers	Post-workshop evaluation form	80-100%	Presenters of workshops distribute and collect the feedback forms

confidence level of 95%. To reduce this to a confidence interval of 5% would require 269 responses. A response rate of 100 would give a confidence interval of 9.24.

A further note: sample size could be reduced at the Deptford Lounge and Increased at The Albany to reflect numbers that attend each location.

Pupils	Post-workshop evaluation form/quiz	10% or 344 responses (95% confidence level and confidence interval of 5)	1 evaluator inputs and analyses data.
--------	------------------------------------	--	---------------------------------------

Longer-term impact

Group	Method	Sample Size	Staff
Adult visitors	Follow-up more in-depth questionnaires/telephone interviews (one month after SMASHfestUK)	10% of respondents (20)	Tbc.
Young Explainers	Reflective practice training diary (structured to fill in - to be returned as 'evidence' of training once analysed). Completed by YE and trainers together. Longer-term tracking of numbers of YEs that go on to do STEM higher qualifications or STEM careers (e-survey or telephone call interview).	Tbc.	Tbc.
Schools Outreach	Teacher telephone interviews to capture any longer-term impact on the pupils learning/teacher use of workshop content Observation of school groups during workshops using structured observation sheets looking for key indicators of learning and assimilation	Tbc.	Tbc.

Assessing Science Capital

SMASHfestUK aims to address some of the dimensions of science capital

What is science capital?

Science capital can be explained simply as designated elements that make-up somebodies 'science environment' - it has been shown that the more elements that an individual has access to during their childhood the more likely they will follow science education and science-related careers when they are adults.

The elements/dimensions have been defined as²:

1. **Scientific literacy** - A young person's knowledge and understanding about science and how science works. This also includes their confidence in feeling that they know about science.
2. **Science-related attitudes, values and dispositions** - This refers to the extent to which a young person sees science as relevant to everyday life (for instance, the view that science is 'everywhere').
3. **Knowledge about the transferability of science** - Understanding the utility and broad application of science qualifications, knowledge and skills used in science (e.g. that these can lead to a wide range of jobs beyond, not just in, science fields).
4. **Science media consumption** - The extent to which a person, for example, watches science-related television, reads science related books, magazines and engages with science-related internet content.
5. **Participation in out-of-school science learning contexts** - How often a young person participates in informal science learning contexts, such as science museums, science clubs, fairs, etc.
6. **Family science skills, knowledge and qualifications** - The extent to which a young person's family have science-related skills, qualifications, jobs, and interests.
7. **Knowing people in science-related roles** - The people a young person knows (in a meaningful way) in their family, friends, peer, and community circles who work in science-related roles.
8. **Talking about science in everyday life** - How often a young person talks about science out of school with key people in their lives (e.g. friends, siblings, parents, neighbours, community members) and the extent to which a young person is encouraged to continue with science by key people in their lives.

The SMASHfestUK evaluation will be assessing each of these indicators to see how far the Festival is contributing to science capital amongst the festival visitors

Counting population

Options are:

- a. Options: sticker-count (every visitor is given a sticker to wear - every tenth sticker is a different colour for evaluation sample - count empty sticker papers at the end of each quarter (of day). Could have different colour for adult and child stickers and Deptford Lounge and The Albany to differentiate.
- b. Front-desk issuing tickets (for free) and taking visitor postcodes at same time. Advantages = captures postcode data at the same time as counting visitors. Downsides = snagging for theatre entry/general entry.

² (taken from <http://www.kcl.ac.uk/sspp/departments/education/research/Research-Centres/cppr/Research/currentpro/Enterprising-Science/01Science-Capital.aspx> accessed Jan 2017)

However, neither of these account for the number of people who are engaged on the street via street performers and science buskers.